To: Mike Hackney[mhackney@pgei.com]; Jessie Graham[jgraham@pgei.com]
Cc: Gallant, William[Gallant.William@epa.gov]; Bruce Suchomel[Suchomel.Bruce@epa.gov]
From: Suchomel, Bruce
Sent: Wed 9/16/2015 3:40:11 PM
Subject: FW: Antelope Creek: NHPA and ESA

Mike/Jessie,

I just want to confirm yesterday's discussion pertaining to the NHPA and ESA requirements for the Antelope Creek area permit expansion. To be clear, we will need to consult with the USHPO and USFWS respectively in these two areas and obtain their concurrence prior to issuing the permit expansion. We will need your Cultural Survey (for NHPA approval) and Biological Assessment (for ESA approval) mentioned below to include with our agency-to-agency consultation. Once our consultation is complete will be in position to issue the permit expansion.

It was good discussing these items of interest yesterday. If you have any questions feel free to contact me.

Bruce Suchomel
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From: Suchomel, Bruce
Sent: Wednesday, September 09, 2015 2:38 PM
To: Mike Hackney; 'Jessie Graham'
Cc: Gallant, William
Subject: Antelope Creek

Mike/Jessie:

We're beginning our review of your application to expand the area permit and to add wells.

Here are some items we'd like to discuss with you within the next week or so – by next Wednesday?

- Area Permit expansion: the area is quite small. Are there plans to expand further? Should we just do an individual permit for the one well?

- As mentioned before, a Cultural Survey will need to be conducted on land areas under an expanded area permit. We will need to consult with the Utah SHPO.

- A Biological Assessment (BA) will need to be conducted on land areas under an expanded area permit. We will need to consult with the USFWS.

- Do you have an UIC conversion well priority established?

- Validated Step Rate Tests (SRT)

o 0.88 psi/ft is the proposed Fracture gradient. We'd like any available past SRT results. Petroglyph will most likely need to conduct a number of SRTs.

- CBLs – Nine of the proposed injector well CBLs used old techniques that make it impossible to determine the CBI. We will most likely need these to be redone.

- Sundry Reports - we need all the sundry reports for all of the injector and AOR wells.

- Depth to USDW – Petroglyph may have calculated the depth to USDW using another technique other than using Special Study 144. We need to know what the depth to the USDW is based on. (e.g., Resistivity logs, interpolation between known values from SS 144, etc). We may need to compare these with SS 144.

- Deviation logs – We'll need deviation logs where appropriate as there are several directionally drilled existing production wells that are affected by the injection well requests.

- Specific Gravity- The proposed 1.00 needs to be discussed. While we realize the injectate will blend fresh water, realistically we may need to have another value calculated.

- It would be desirable to have a type log (Geophysical)with key markers noted that is representative of the Area Permit and injection and production zones.

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